

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT EXAMINING OPERATIONS

Applicant: Ionel Jitaru

Serial No.: 09/434,985

Filed: November 5, 1999

Title: LOW NOISE FULL INTEGRATED MULTILAYERS FOR POWER CONVERTERS



Group Art Unit: 2832

Examiner: Anh Mai

Docket No.: P 7675.10006

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail, in an envelope addressed to: BOX RESPONSES NO FEE, Commissioner for Patents, Washington, D.C. 20231, this 18th day of October, 2001.

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October 18, 2001

RESPONSE

Commissioner  
for Patents  
Washington DC 20231

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Greetings:

This is in reponse to the Office Action mailed July 20, 2001. The Examiner is thanked for the consideration that she has given applicant's arguments. Applicant acknowledges that claims 1 - 23 have been allowed.

Claims 24 - 28, however, remain rejected, claim 24 by allegedly being anticipated by Levin, claims 25 and 27 - 28 by allegedly being unpatentable over Levin in view of Godek, and claim 26 as

allegedly being unpatentable over Levin in view of Godek and further in view of Cassese et al., U.S. Patent No. 5,949,191.

Applicant respectfully points out that claims 24 - 27 depend from allowed claim 22 and therefore must also be allowable over the art of record. Accordingly, Applicant does not believe an argument responding to the Examiner's contentions with regard to these claims is necessary.

Regarding claim 28, the Examiner states that Levin discloses the claimed invention except for an active element secured to the printed circuit board, while Godek discloses a printed circuit board wherein active element 26 is attached. The Examiner states that it would have been obvious to have an active element to provide a conductive circuit. Applicant respectfully traverses the rejection.

Levin discloses a "low profile planar transformer 20 disposed within a printed circuit board ("PCB") 22." Col. 3, line 67 to Col. 4, line 1. "The planar substrate is comprised of a stack of substrates 23 each of which may support one or more planar coils 24 to form a layer (L) . . . ." Col. 4, lines 1 - 3. "The substrates 23 are sintered into a monolithic sintered body 26[, and] an aperture 29 is formed in the sintered body 26 which is sized to receive a core 28 of ferromagnetic material."

The Examiner is apparently asserting that the sintered body 26 is a multilayer printed circuit board wherein the substrates 23 are the layers. Yet the sintered body 26 would not be considered a "printed circuit board" as that term is used in the art. Particularly, "printed circuit board" is a specific term in electrical engineering implying a structure adapted to receive electrical components or devices (such as resistors, capacitors and integrated circuits), including printed wiring for interconnecting the components or devices.

Levin shows such a printed circuit board 22, receiving a passive component in the form of a transformer 20 that includes the sintered body 26. Precisely because the sintered body 26 is part of

a transformer and is not a printed circuit board, the sintered body 26 has no provision for receiving electrical components. Accordingly, the term "printed circuit board" in claim 28 expresses an important concept that cannot be overlooked.

The Examiner then argues that Godek teaches attaching an electrical component to a printed circuit board. This is true. However, Godek does *not* teach or suggest attaching an electrical component to a *transformer*, especially a transformer such as that of Levin having no provision for receiving electrical components, and the Examiner's rationale "to provide a conductive circuit" does not supply the missing teaching. A "conductive circuit" in Levin would be provided according to the prior art by attaching the electrical component(s) to the PCB 22, not the sintered body 26.

The problem with the Examiner's assertion that the sintered body 26 of the transformer of Levin is equivalent to the claimed printed circuit board is that it simply assumes the recognition behind the invention of claim 28. In the prior art, there were circuit boards and separate components to be mounted on the printed circuit boards, the prior art recognizing a distinction therebetween as the Examiner surely appreciates. Levin is a good example, providing a PCB 22 for mounting the sintered body 26 of the transformer 20 as well as other electrical components.

By contrast, Applicant has recognized that one can incorporate the windings of a magnetic component directly into the PCB that is used to mount the rest of the circuitry and achieve a higher level of integration along with lower manufacturing costs. There is no such recognition to be found in Levin or Godek.

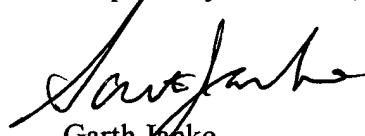
Therefore, assuming *arguendo* that the person of ordinary skill would have attempted to modify Levin according to the teachings of Godek as the Examiner proposes, that person would naturally have attached the electrical component 26 of Godek to Levin's PCB 22, because that is the

purpose of the PCB 22 as taught by the prior art. Such person would not have attached the electrical component to the sintered body 26 of Levin's transformer 20, because that is not the purpose of the sintered body 26, and there is no suggestion in the prior art to adapt it for use in this manner.

Accordingly, to allege that it would have been obvious to modify Levin in view of Godek, the Examiner must show where the prior art teaches or suggests to the person of ordinary skill to ignore or omit the printed circuit board 22 in Levin and use instead the sintered body 26 of the transformer 20 to mount electrical components. The Examiner has not made such a showing. The claim is limited to a specific combination that includes a printed circuit board and this distinguishes over the prior art of record.

For the foregoing reasons, the Examiner is respectfully requested to reconsider the rejections of claims 24 - 28, and pass claims 1 - 28 to issue.

Respectfully submitted,



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